

GRAFTED POLYMER ELECTROLYTE MEMBRANE, METHOD OF PRODUCING A
POLYMER ELECTROLYTE MEMBRANE, AND FUEL CELL COMPRISING THE
SAME

ABSTRACT OF THE DISCLOSURE

The present invention is a grafted polymer electrolyte membrane prepared by first preparing a precursor membrane comprising a polymer which is capable of being graft polymerized, exposing the surface of the precursor membrane to a plasma in an oxidative atmosphere, then graft-polymerizing a side chain polymer to the plasma treated precursor membrane and introducing a proton conductive functional group to the side chain. The resulting grafted polymer electrolyte membrane has excellent stability and performance when used in a proton-exchange membrane fuel cell or for electrolysis of water.

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